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Like A Rolling Stone: Impacts of Digitalization on The Music Industry – Literature Review

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Abstract

Our world is already familiar with technological revolutions but the way how digitalization has shaped the music industry over the past 20 years is unique. Goal of this paper is to review the important literature according to the subject of digitalization's impact on music industry and reveal the common findings and possible differences within the articles. The primal method is browsing the most popular and acknowledged journals of marketing as well as some journals from other branches to back up the review.

The main findings are that there's a mutual understanding of digitalization's radical impacts on the industry, but the predictions of the long-term effects differ from one another. The main articles emphasize analyzing file-sharing, piracy and streaming and their effects on record companies and artists.

Keywords Digitalization, Music Industry, P2P, Piracy, Streaming

Contents

1 Introduction

Digitalization, as we know it, has had life changing impacts on countless areas of businesses. Like great changes usually do, digitalization has opened new doors and closed some old ones for different industries such as retailing, healthcare and communication industries for example (Hagber et al. 2016; Murdoch & Detsky 2013; Hanna et al. 2011). When it comes to copyright-protected media industries like the music industry, digitalization has shocked traditional revenue models by changing the main product of the industry from physical material into digital code form, making it available for unlimited copies and near-zero marginal costs (Waldfogel 2017; Datta et al. 2018).

What makes the digitalization of the music industry fascinating to investigate is not only the scale of its radical impact but also how fast it has implemented: Revenue in the music industry has fallen by more than half between years 1999-2017 (Waldfogel 2017). This fatal change in the industry has not been bypassed in the academic literature as it's been reviewed in several distinguished journals. The first major consequence from the digitalization was the dawn of piracy which has gathered a group of important articles around it (Sinha & Mandel 2008; Lysonski & Durvasula 2008; Sinha et al. 2010). It didn't take that many years before the commercial response to piracy took place as a form of a streaming services like Spotify and Tidal. The on-going streaming trend is the other major object for the literature around the digitalization in music industry (Aguiar & Waldfogel 2018; Borja et al. 2014; Datta et al. 2018; Moreau 2013).

Digitalization and its consequences on music industry has been researched in various articles but there's been few critical literature reviews that would have combine different theories and conclusions together to build up a big picture of this matter. The goal of this paper is right there – to review the major articles and compare their findings and conclusions. There have been a lot of findings from different areas of the industry and this paper is an effort to try to find out the important ones.

The primary research question of the paper is "How digitalization changed the music industry?" The secondary research questions are "What are the differences when it comes to digitalization's effects on major operators versus minor operators within the industry?" and "In which ways digitalization affected on the revenue of the industry?" To gather the literature for this paper, I familiarized myself with the articles from the major marketing journals like *Journal of Marketing* as well as from industrial and management journals like *International Journal of Industrial Organization*.

2 Digitalization in Music Industry

In the beginning of the year 1999 there was nothing new in the western front. Industry consisted of major record labels alongside with several small and mid-sized independent labels and the marketing was practices were based on traditional indirect offline channels such as radio and TV commercials (Kask & Öberg 2017). The relationship between labels and artists had stabilized and pricing mechanism was based more on history than competition (Bockstedt et al. 2006). The following decades saw a major and fatal change in the industry as digitalization had its effects on pretty much every area from distribution to promotion.

In late 1999 everything changed (see figure 1.) as organized file sharing began with Napster - in spite of its relatively short lifetime of two years, its legacy was here to stay (Liebowitz 2008). The first impressions of digitalization were sharp reductions in revenue caused by almost surely piracy (Waldfogel 2017). This led to a heavy regulations and lawsuits against the P2P acts like Napster from the supply side like Recording Industry Association of America (RIAA) which criminalized the piracy and the supporting platforms (Sinha & Mandel 2008). iTunes and other digital music stores made it possible to legally download music from the Internet which turned a page in the digitalization. To illustrate the rapid development of the digitalization, iTunes was a transformational platform established in 2003 (Waldfogel 2010) but it was after no more than 16 years when it was shut down in early 2019. In the history of recorded music industry, it's relatively short time.

One of the latest and prevalent major manifestation of digitalization has been streaming as a form of music consumption. (Datta et al. 2018; Aguiar & Waldfogel 2018; Borja et al. 2014). Streaming services like Spotify not only function as a distribution platform but also as a promotion channel (Moreau 2013). This new and unique characteristic which merges distribution and promotion has further transformed the field.

Figure 1: The Development of Distribution in the Digital Era with Directional Timeline of the Dominating Channel

3 Reviewing the Impacts of the Digitalization on Music Industry

The digitalization has dramatically changed the music industry (Bustinza et al. 2013; Waldfogel 2017; Datta et al. 2018). This chapter is the core of this paper: to review the important literature of how digitalization has impacted the music industry. This is divided into three sections. Firstly, the impact on total revenue is looked through as it covers the main functions of the research question by setting frameworks in the big picture of the effects. Understanding this framework is crucial when reviewing the impacts on record companies and artists in the following chapters.

3.1 Impacts on Total Revenue of the Industry

Table 1: The Key Literature in Chapter 3.1

The Key Literature in Chapter 3.1				
Source	Goals	Theoretical Framework	Research Methods	Main Results
Sinha et al. 2010	To resolve the apparent paradox of the recent move toward offering DRM-free music by some major online music sellers	Reactance theoryand theory that people take fairness and reciprocity considerations into account over material self-interest	Two large empirical studies and a validation exercise with a large sample of more than 2000 college students	Music industry can benefit from removing DRM
Sinha & Mandel 2008	To ascertain the factors that govern consumers' willingness to pirate a digital product	Tendency to pirate depends on three factors: positive incentives, negative incentives and consumer characteristics	Three separate studies based on quantitative questionnaires for students	RIAA's efforts to use fear and shame to stop digital piracy works only for certain segments

Lysonski & Durvasula 2008	To examine the present state of downloading	Previous studies about attitudes towards piracy (viewing it socially acceptable)	A sample of university students to examine research questions	Downloading continues at a high rate despite the media attention given to the consequences
Liebowitz 2008	Estimate the impact of file-sharing on album sales in the US	Previous studies that have found that the impact of file sharing is negative (Hong 2007; Rob & Waldfogel 2006; Zentner 2006)	Quantitative data analysis from album sales in US over the period 1998-2003	File sharing appears to have caused the entire decline in record sales
Aguiar & Waldfogel 2018	To find out does streaming stimulate or depress music sales	Previous studies about demand and supply of music.	Examining the data of the growth of streaming during the years 2013-2015	Streaming displaces music piracy
Elberse 2010	To find out the effect of unbundling to sales	Previous literature on how firms should design, price and promote bundles	Empirical examination using weekly data from music sales	Revenues decrease significally when digital downloading becomes more prevalent
Peitz & Waelbroeck 2005	To find out why the music industry may gain from file-sharing with sampling	Previous literature in the context of computer software	Testing a simple multi-product monopoly model	Sampling overcompensate the negative effect of file-sharing

3.1.1 Piracy and the 2000's drop

The music sales of record industry declined with the entry of P2P soft wares based on free downloading or in other words – piracy (Mortimer et al. 2010; Borja et al. 2014; Bustinza et al. 2013; Liebowitz 2008;). The decline was universal: the piracy activity is a heterogeneous activity across countries (Bustinza et al. 2013).

The most crucial researches suggest that piracy (and piracy only) caused the entire decline in record sales (Liebowitz 2008; Waldfogel 2017). On the other hand, in year 2013 almost one fourth of the population did not consume digital music in any of its forms (illegal nor legal), which also negatively correlated with recording industry sales per capita (Bustinza et al. 2013) Liebowitz (2008) defines the core reason of piracy's instant damage for the industry by underlining the easily seen idea of an illegal downloading as a substitute for purchasing the same song. Thus, piracy had to lead to a negative financial impact on the industry.

As the impact of the piracy was as extensive as discussed previously, the recent literature has also focused on a matter how successfully the industry manages to react to piracy. (Sinha & Mandel 2008; Lysonski & Durvasula 2008). Major record companies acted against piracy with multiple ways: by building up lawsuits, cutting prices, developing content more difficult to duplicate and offering new distribution solutions (Curien & Moreau 2007).

As illegal downloading became more and more popular, the music industry became concerned about its progress. This culminated when RIAA launched a massive effort to shut down services providing illegal transfer of music – as a result, for example Napster was forced to quit its current businesses and it transformed into a legal act (Lysonski & Durvasula 2008). Some papers support and recommend legal acts. Relying on their results, Bustinza et al. (2013) strongly recommend policy makers to adapt a strong regulation system to reduce file-sharing activity.

However, many suggest that the industry failed when it comes to its acts of preventing piracy (Sinha & Mandel 2008; Sinha et al. 2013; Lysonski & Durvasula 2008). According to Sinha & Mandel (2008), tendency to download illegally depends on three factors: positive incentives (i.e. handy website), negative incentives (i.e. perceived risk of piracy) and consumer characteristics. They suggest that in general negative incentives weren't great enough to further RIAA's efforts to use fear and shame to prevent piracy. Furthermore, the negative incentives can actually increase the tendency of piracy for others. That's a relevant suggestion accompanied with other studies as well (Sinha et al. 2013; Lysonski & Durvasula 2008; Huang 2005).

In theory, removing the digital rights management (DRM) could benefit the music industry as the strategy has the potential to convert some illegal downloaders into paying customers (Sinha et al. 2013). Lysonski & Durvasula (2008) are in the same line as they suggest that according to their results, there is a notable negative correlation between piracy and consequences of being caught from piracy. Also Huang (2005) notes that rather than trying to prevent downloading, industry should concentrate in finding a new alternative way for piracy (eventually this lead to streaming services like Spotify).

Thinking broadly, could there be similarities with researches about the decreased tendency for criminal acts when decreasing the length of the prison sentences? I think the same elements can be found there.

3.1.2 Streaming

Streaming is a disruptive technology which allows consumers unlimited access to an inclusive library at a fixed monthly payment (Datta et al. 2018). This definition would exclude YouTube as a streaming service as it's free of charge but it will be taken into account in this paper because of its huge popularity among the music consumers. Even though YouTube's core function is in videos rather than in songs, in my opinion YouTube should always be considered as a streaming service as *de facto* a massive amount of people use it as a streaming service. In fact, in the year 2017 it's was the most widely used music service in the US (RIAA 2017).

There are various ways to categorize different streaming services. Firstly, streaming services can be split in two categories: interactive, where users can choose which song they will hear (Spotify & Youtube i.e.) and non-interactive, where choosing is not allowed but users can create tailored stations for themselves (Pandora i.e.) (Aguiar & Waldfogel 2018; Datta et al. 2018). One other way to look at the differences between the streaming services is the way how The Rercording Industry Association of America (RIAA) divides the revenue from streaming services in three components (RIAA 2014):

1. Revenue from SoundExchange distributions (The platform builds tailored music stations for the consumer but doesn't let one pick up the songs, Pandora and SiriusXM etc.)
2. Revenue from subscription services (The platform with an all-inclusive access to the library, Spotify etc.)
3. Revenue from "on-demand ad supported" streaming services (Youtube etc.)

As underlined in the section 4.1.1, the literature of 2000's claims in unison that piracy itself had a negative impact on the revenue of recorded music industry. The dawn of music streaming can be seen as a response to piracy and that the popularity of streaming services has notably reduced piracy (Aguiar & Waldfogel 2018). On the other hand, Borja et al. (2014) suggest that students who use streaming services are 20% more likely to engage in music piracy. They claim that streaming is in fact a notable explanatory of music piracy and suggest that the industry should concern alternative ways of consuming music – not only relying on music streaming. That sounds a little utopist as the streaming services are not in the hands of suppliers, but their catalogues are in the hands of streaming services. As long as the current contracts and relatively cheap prices stand, it's going to be a rocky way to persuade consumers to leave the unlimited and all-inclusive streaming services.

The streaming revolution has awakened a debate about benefits and drawbacks of ownership versus streaming when it comes to consumption (Datta et al. 2017) as well as the consequences in revenue generating. Aguiar and Waldfogel (2018) find positive correlation between streams and sales and streaming and piracy. However, they claim that streaming might increase or decrease permanent sales of the music industry depending on the relative sizes of the payments per streams. This is due to negotiations between labels and the services in the rising trend of bundling the product of music.

3.1.3 Digitalization and Bundling

One significant outcome of digitalization for the music industry has been the recent trends of bundling and unbundling the products (Elberse 2010; Moreau 2013; Zhu & MacQuarrie 2003; Bakos & Brynjolffson 1999; Elberse 2010; Aguiar & Waldfogel 2017). Just like many other products such as articles in magazines and shampoo and conditioner, music can be seen as bundles of components. Bundling is used to achieve three main objectives (Zhu & MacQuarrie 2003):

1. Increasing revenues
2. Reducing costs
3. Deterring entry

Of these three objectives, the first one ‘increasing revenues’ is put under magnifying glass in this paper as its part of the research questions.

Past twenty years there’s been significant shifts between whether bundling or unbundling is leading to a greater revenue. Besides being an important outcome of digitalization, this rollercoaster kind of movement makes it fascinating to investigate a little deeper. The following chart illustrates the recent development.

Table 2: Progress of Bundling in Digitalization

The Era	Popular Strategy	Effect on sales	Related literature
Early years of digitalization 1998-2003	Bundling	Positive	Zhu & MacQuarrie (2003), Bakos & Brynjolffson (1999), Moreau (2013)
iTunes Era 2003-2010	Unbundling	Negative	Elberse (2010)
Streaming Era 2010-	Bundling	Positive/Negative	Aguiar & Waldfogel (2018); Waldfogel (2017)

At the beginning of digitalization bundling was a prevalent strategy (and related literature note its positive effect on sales) but as iTunes became a major (legal) digital music platform it led to a trend of unbundling music (Elberse 2010). According to Elberse (2010), this trend had a negative effect on sales. However, it was not before long when bundling returned again in form of streaming services (Aguiar & Waldfogel 2018).

In general, bundling digital goods will lead to increased revenue (Zhu & MacQuarrie 2003; Bakos & Brynjolffson 1999; Moreau 2013). Moreau (2013) note that bundling the digital products makes it possible for firms to generate higher profit and helps to reduce the lack of individuals excluded from consumption. This is due to smoothing the willingness-to-pay of heterogeneous consumers (Moreau 2013; Zhu & MacQuarrie 2003). Bakos & Brynjolffson, in turn, claim that the power of the predictive value of bundling is a significant driver for generating higher profits and efficiency.

The shift turned when iTunes started to sell separate songs for the price of 0.99$ per song. Despite the increased demand towards individual songs, it was not enough to outperform the positive effect from pure-bundling strategies (Elberse 2010). According to Elberse (2010), unbundling (or mixed-bundling) loses the positive effect from "hit item", which have previously helped to sell the other items (songs) in the bundle (album).

Bundling made a comeback with streaming services (Aguiar & Waldfogel 2018; Waldfogel 2017). One could think that streaming is "as bundled as possible" because in practice, consumer will get an all-inclusive bundle of music with a flat payment per month. Aguiar & Waldfogel (2018) claim that whether bundled streaming will increase or decrease the revenue, it's a question of per-stream rates. This means that as the revenue from streaming is not correlating with the volume of songs listened, only the subscriptions and paid ads can increase the revenue. There's also a negative side in streaming bundles as they exclude the positive peaks from new, high-value content (Waldfogel 2017) such as the peak on sales from new albums.

At the end of this chapter its worth of point out that when it comes to usage of terms of 'bundling' and 'unbundling', in some papers they mean exactly the opposite than in other papers. For example, Moreau (2013) uses the term 'unbundling' when he describes the characteristics of streaming services, while all the other papers I reviewed from the similar era are using the term 'bundling' for the same purpose. In general, the lack of proper definition of the digital bundling in all of its forms could form a base for some future research in my opinion.

3.1.4 New Opportunities for Profit-Making

Is 'sampling' a way to boost sales in music industry? Most of us are familiar with sampling in traditional marketplaces where people behind the booths often let you taste their products wishing to convince you to buy it. Peitz & Waelbroeck (2005) suggest that sampling in its form is an important factor for the business and it will help music labels to profit from P2P networks (i.e. Napster and LimeWire, the download platforms before streaming services.) Their model shows that there are two outcomes from the sampling and free downloading:

1. Sampling allows listeners to find a better match for their taste which tends to lead to higher income profits.
2. Listeners tend to keep the download and not buying the song or album,

The former effect dominates the latter (Peitz & Waelbroeck 2005). They have a strong opinion that file-sharing technologies will lead to higher profits provided that there's enough diversity in taste and in products. Bhattacharjee et al. (2007) also recognize sampling and its opportunities in purchase decisions as music is seen as a fashion-orientated product with rapid changes in customers' taste but they have a more skeptical view on it. They note that sampling requires a lot of time and effort, thus it's not automatically a stairway to heaven. However, online networks might lead to benefit sampling and word-of-mouth effects. (Battacharjee et al. 2007).

In my opinion this theory of beneficial sampling can be also linked into growing popularity of willingness to pay for streaming services. As statistics from RIAA (2017) show, the revenue from the subscription based streaming services has increased more than the revenue from ad-supported streaming. One way to explain this could be the effect of sampling: using ad-supported versions with their limitations seem like sampling the full subscription-based versions to me.

3.2 Impacts on Record Companies – Major versus Minor Perspective

Table 3: The Key Literature in Chapter 3.3

The Key Literature in Chapter 3.3				
Source	Goals	Theoretical Framework	Research Methods	Main Results
Moreau 2013	To explain why it has taken so long for the majors to adapt into digitalization.	Previous literature on the literature on the theory of disruption and disruptive innovations and clear definitions of "majors" and "minors"	Reviewing statistics on previous literature	Majors have failed because their inertia left the field open for other actors to take control

Kask & Öberg 2019	To describe and explain why the digital distribution does not lead to the disruption of all types of companies	The paper contributes to previous literature about dominant companies and digitalization	Large set of secondary sources combined with in-debt interviews in Sweden's recording industry	The major record companies' direct control is exposed to increase when customers turn to streaming
Bhattacharjee et al. 2007	To find out how digital sharing technologies have impacted on albums and survival of the format	Literature about post-P2P music world	Combining the data on the performance of music albums on the Billboard charts with file-sharing data	Sharing does not hurt the survival of top-ranked albums, but it has a negative effect on low-ranked albums

It is common to divide record labels in two groups: major labels (Warner, Sony and Universal) and minor labels also known as "independents" (Moreau 2013; Waldfogel 2017). Quite naturally, when it comes to impacts of the digitalization, at many points they turn out different for major and independent labels (Moreau 2013; Waldfogel 2017; Bhattacharjee et al. 2007; Kask & Öberg 2019). Before the digitalization, the strategy for major record companies relied on exclusive control over large-scale manufacturing and distribution among other things (Lopes 1992). Digitalization outdated this position as the previous chapter about recent change in platforms revealed.

Digitalization has changed the rules of music business for minor and major labels and many think that the gap between has narrowed (Bhattacharjee et al. 2007; Moreau 2013; Graham et al. 2004; Datta et al. 2018). Why is it so? There are several explanatories presented as arguments. Firstly, the distribution of music records was previously dominated by the major labels as they intended to claim control over retailers (i.e. EMI's purchase over a huge retailer - Virgin Megastores) but with the digitalization the distribution models have changed dramatically and that has put the dominance of the majors at risk (Graham et al. 2004). Datta et al. (2018) suggest that the market is more fragmented and thus, more amenable to independent operators. Bhattacharjee et al. (2007) claim that innovative strategies by minor labels have led to narrowing the gap. On the other hand, they also note that file-sharing has a negative effect on low-ranked albums on music charts, which may not benefit minors in my opinion because of majors' commercial power (Borreau et al. 2012).

The effects, however, are not black and white. Curien & Moreau (2007) claim that major record companies could benefit from cheap or free downloads by saving on the high fixed costs of distribution and renegotiating the contracts with the artists. Deeper commercial relations might also favor majors in the adaption of digitalization (Borreau et al. 2012). When it comes to streaming, major labels have their own advantages in streaming platforms like Spotify where listening to playlists is a very common way of consuming music as the most popular playlist have million followers worldwide. (Kask & Öberg 2019). Majors have understood this opportunity and they have generated their own subsidiary playlists (like *Filtr* by Sony Music) where they can directly promote their artists without depending only on traditional ways of promoting like radio (Kask & Öberg 2019).

On the other hand, Moreau (2013) claims that streaming services should actually be more favorable to independents as it the discovery opportunities are better than ever before. He also notes that major record companies were first extremely reluctant to deal with unlimited access (Moreau 2013) so in my view they could have succeeded better if they would have operated earlier in that significant market.

3.3 Impacts on Artists

The digital revolution has had both direct and indirect effects not only for record companies but for artists too. Digitalization has written new rules for the distribution and made it possible for artists to bypass record companies at least in theory.

Table 4: The Key Literature in Chapter 3.3

The Key Literature in Chapter 3.3				
Source	Goals	Theoretical Framework	Research Methods	Main Results
Datta et al. 2017	To study how the adoption of music streaming affects listening behavior	Previous studies about demand and supply of music.	A unique panel data set of individual consumers' listening histories	Adoption of streaming leads to greater diversity in music

Bockstedt et al. 2006	To propose a model and theoretical perspective for understanding the transformation of music industry's value chain	Theories of pricing of digital goods, market structure, value chain and intellectual property rights.	Evaluating various literature and developing mini-cases	A theory and a model of how players' role will change in the value chain
Graham et al. 2004	To explore the impact of the Internet on the supply chain for music.	Literature review of traditional music industry	Qualitative approach: personal interview method	The future looks better for artists and consumers than major labels

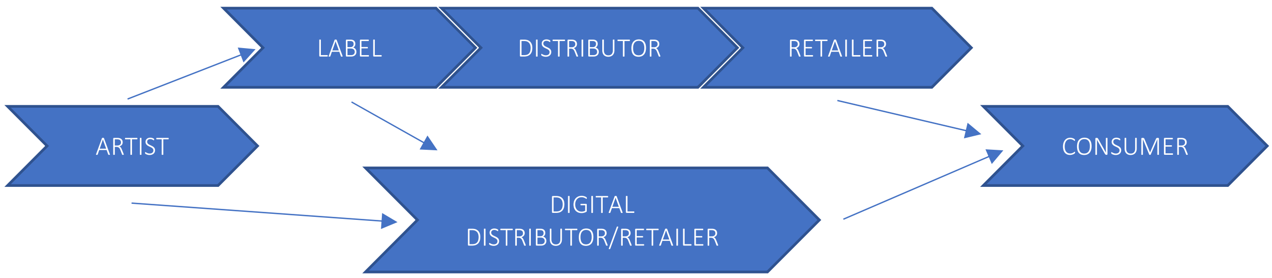
3.3.1 Transformation of the Supply Chain

Bockstedt et al. (2006) and Graham et al. (2004) suggest basically similar changes for the supply change structures after the digitalization. The traditional supply chain model (see figure 2.) is static and the actors are well established and limited (Graham et al. 2004). As it can be seen in the *Traditional Supply Chain* graph there are no variable ways for artists to operate and labels have the power as being the link between artists and distribution system. To illustrate this, in traditional supply chain the labels collect approximately 85-90 per cents of the profit from supply chain (Graham et al. 2004). As noted previously, the label's strategy was to build control over the distribution and retail channels, which made artists heavily depended on the labels. Bockstedt et al. (2006) claim that historically artists needed labels to produce, promote and distribute music.

Figure 2. Traditional Supply Chain Based on Graham et al. (2004) & Bockstedt et al. (2006) models

However, Graham et al. (2004) suggest that the future (see Figure 3.) looks much better for artist and consumer than it looks for major record labels. The dawn of MP3 format and the wide online distribution network were the main factors for driving changes in the market structure and thus, distribution systems in the music industry (Bockstedt et al. 2006). The *Future Supply Chain* graph looks much favorable for artists than the *Traditional Supply Chain* graph. In the new model artist will have their own opportunity to access the distribution and retailing, thus lowering the power and importance of the label.

Figure 3. Future Supply Chain Based on Graham et al. (2004) & Bockstedt et al. (2006) models



Although digitalization has opened door for artists by expanding the supply chain opportunities, in my opinion it would be too credulous to proclaim artists in the same line with the record labels. No matter how you twist the supply chain, artists are still at least at some level depending on resources in production and promotion from the labels. However, they are now more easily discoverable with platforms like Spotify (Datta et al. 2017).

3.3.2 Digitalization and Its Effect on Profits of the Artist

There's a famous line from Spotify's Daniel Ek in which he argues that Spotify has paid more than two billion dollars which is two billion dollars more than compared to piracy's zero dollars (Aguiar & Waldfogel 2017). Some may think that Spotify is a better choice from two bad options. Bockstedt et al. (2006) suggest that as a result of digitalization, artists have an opportunity to bypass production of physical CD's and avoid royalty contracts that depend on production costs. Thus, artists can make profit from the sources they have not obtained before. However, it is important to review these suggestions critically because of the fact that the decrease in the sales of the whole industry is generally a decrease in the sales of a single artist as well. The literature tends to build up a future contract and profit models rather than analyzing the on-going changes.

Although the income of artists through record sales has decreased, some complementary products such as live performances have benefitted from the digital revolution. Mortimer et al. (2010) claim that although file-sharing has decreased album sales, it has had a positive effect on non-digital complementary products like live shows and sales of merchandises. However, this only applies to the smaller artists as they note that concert sales for large artists appear to be decreased as a result of file-sharing.

3.3.3 Small Versus Big

Before the digital revolution, the supply side of the music was dominated by a relatively small number of artists which generated a large share of the revenue (Datta et al. 2017). This is highly due to a theory by Rosen (1981) called "the phenomenon of superstars" also known as "superstar effect". In this theory, a great amount of money and a large scale of domination can be earned by a relatively small number of people even though the difference in talent can be small. (Rosen 1981). Adler (1985) suggest that the phenomenon of stars is related where the consumption is based on knowledge. As music is listened and discussed with other people who know about it, it is connected to the phenomenon of stars (Adler 1985). But how has digitalization changed this?

The common idea is that as a result of digitalization, the field for artists is more fragmented than it was before (Datta et al. 2017). Thus, it would favor smaller artists more than before. Datta et al. (2017) note that via Spotify consumers listen to fewer superstars and widen their range of music to expanded set of artists. Mortimer et al. (2010) suggest that file-sharing has increases live performance sales for small artist. This might be due to an increased awareness as discussed above. They also note that similarly, the decline in album sales is more significant for bigger artist than it is for smaller. However, it is not mention whether it's a matter of relative or absolute decline. Naturally the stakes are bigger with the large operators and the absolute decline in sales will be greater when it comes to big artists compared to small ones.

4 Discussion

The research question was how digitalization has changed the music industry with secondary questions of its effects on total revenue as well as on major and minor operators. The method of the study was to find and critically review the acknowledged literature of the subject and compare different views and opinions. The literature review relied on top journals like *Journal of Marketing* to maintain a high academic level but there were also some articles from rather minor journals to ensure multifaceted comparison for the paper.

The key finding from the literature review is that more or less every article noted digitalization as revolutionary in the history of recorded music industry and that it has led to negative effect on sales - at least in a short-term. However, the authors did not see digitalization *ipso facto* as the reason for the negative effect on sales but the matter how different operators dealt with it (i.e. pirates versus RIAA). None of the studies claimed that the stage of drop was permanent and for example some included theories of how digitalization in form of streaming may even increase the sales (Aguiar & Waldfogel 2018).

All the journals I reviewed recognized its effects on every area of the industry and there were no signs of temporariness in the findings of the studies. The digitalization has changed the music industry mainly in forms of distribution as the products are digital and the main distribution channels are no longer physical record stores but streaming platforms, like Spotify and YouTube, and in forms of fragmented markets and supply chains. The major finding when it comes to different views and theories is the question of who's winning: major or minors? Other studies claimed that the modern fragmented will decrease the power of minors while others suggest that the new form is even better for the big ones. To conclude, the key point is that digitalization has changed the rules for every player - no matter how big or small.

5 Limitations of the Study and Recommendations for Further Research

The most significant limitation when it comes to comparing and analyzing different papers was the matter that the development of the industry was relatively fast in the 2000s which made it occasionally hard to compare studies from different years. However, usually the most cited research was relevant to be compared as the general focus was pretty much the same on certain eras (for example, the studies made in the early 2000s focused mostly on piracy and file-sharing while the recent studies are focusing more on streaming and its impact).

Although digitalization in music industry is widely discussed throughout the academic journals, it's still an ongoing progress so there is a need for continuing the research. After all there is no going back to the start. There's no direction home.

6 References

ADLER, M., 1985. Stardom and talent. *The American Economic Review,* **75**(1), pp. 208-212.

AGUIAR, L. and WALDFOGEL, J., 2018. As streaming reaches flood stage, does it stimulate or depress music sales? *International Journal of Industrial Organization,* **57**, pp. 278-307.

BAKOS, Y. and BRYNJOLFSSON, E., 1999. Bundling information goods: Pricing, profits, and efficiency. *Management science,* **45**(12), pp. 1613-1630.

BHATTACHARJEE, S., GOPAL, R.D., LERTWACHARA, K., MARSDEN, J.R. and TELANG, R., 2007. The effect of digital sharing technologies on music markets: A survival analysis of albums on ranking charts. *Management Science,* **53**(9), pp. 1359-1374.

BOCKSTEDT, J.C., KAUFFMAN, R.J. and RIGGINS, F.J., 2006. The move to artist-led on-line music distribution: a theory-based assessment and prospects for structural changes in the digital music market. *International Journal of Electronic Commerce,* **10**(3), pp. 7-38.

BORJA, K., DIERINGER, S. and DAW, J., 2015. The effect of music streaming services on music piracy among college students. *Computers in Human Behavior,* **45**, pp. 69-76.

BOURREAU, M., GENSOLLEN, M., MOREAU, F. and WAELBROECK, P., 2013. "Selling less of more?" The impact of digitization on record companies. *Journal of cultural economics,* **37**(3), pp. 327-346.

BUSTINZA, O.F., VENDRELL-HERRERO, F., PARRY, G. and MYRTHIANOS, V., 2013. Music business models and piracy. *Industrial Management & Data Systems,* **113**(1), pp. 4-22.

CURIEN, N. and MOREAU, F., 2009. The music industry in the digital era: Toward new contracts. *Journal of Media Economics,* **22**(2), pp. 102-113.

DATTA, H., KNOX, G. and BRONNENBERG, B.J., 2017. Changing their tune: How consumers' adoption of online streaming affects music consumption and discovery. *Marketing Science,* **37**(1), pp. 5-21.

ELBERSE, A., 2010. Bye-bye bundles: The unbundling of music in digital channels. *Journal of Marketing,* **74**(3), pp. 107-123.

GRAHAM, G., BURNES, B., LEWIS, G.J. and LANGER, J., 2004. The transformation of the music industry supply chain: A major label perspective. *International Journal of Operations & Production Management,* **24**(11), pp. 1087-1103.

HANNA, R., ROHM, A. and CRITTENDEN, V.L., 2011. We're all connected: The power of the social media ecosystem. *Business horizons,* **54**(3), pp. 265-273.

HUANG, C., 2005. File sharing as a form of music consumption. *International Journal of Electronic Commerce,* **9**(4), pp. 37-55.

KASK, J. and ÖBERG, C., 2019. Why "majors" surge in the post-disruptive recording industry. *European Journal of Marketing,* **53**(3), pp. 442-462.

LIEBOWITZ, S.J., 2008. Research note—Testing file sharing's impact on music album sales in cities. *Management Science,* **54**(4), pp. 852-859.

LOPES, P.D., 1992. Innovation and diversity in the popular music industry, 1969 to 1990. *American Sociological Review,* , pp. 56-71.

LYSONSKI, S. and DURVASULA, S., 2008. Digital piracy of MP3s: consumer and ethical predispositions. *Journal of Consumer Marketing,* **25**(3), pp. 167-178.

MOREAU, F., 2013. The Disruptive Nature of Digitization: The Case of the Recorded Music Industry. *International Journal of Arts Management,* **15**(2),.

MORTIMER, J.H., NOSKO, C. and SORENSEN, A., 2012. Supply responses to digital distribution: Recorded music and live performances. *Information Economics and Policy,* **24**(1), pp. 3-14.

MURDOCH, T.B. and DETSKY, A.S., 2013. The inevitable application of big data to health care. *Jama,* **309**(13), pp. 1351-1352.

PEITZ, M. and WAELBROECK, P., 2006. Why the music industry may gain from free downloading—the role of sampling. *International Journal of Industrial Organization,* **24**(5), pp. 907-913.

ROSEN, S., 1981. The economics of superstars. *The American Economic Review,* **71**(5), pp. 845-858.

SINHA, R.K., MACHADO, F.S. and SELLMAN, C., 2010. Don't think twice, it's all right: Music piracy and pricing in a DRM-free environment. *Journal of Marketing,* **74**(2), pp. 40-54.

SINHA, R.K. and MANDEL, N., 2008. Preventing digital music piracy: the carrot or the stick? *Journal of Marketing,* **72**(1), pp. 1-15.

WALDFOGEL, J., 2017. How digitization has created a golden age of music, movies, books, and television. *Journal of Economic Perspectives,* **31**(3), pp. 195-214.

WALDFOGEL, J., 2010. Music file sharing and sales displacement in the iTunes era. Information economics and policy, 22(4), pp. 306-314.